miscellaneous, 6,000*l.*; making a total of 34,690*l.* already incurred, which, added to Messrs. Grissell & Peto's estimate of 139,850*l.*, would leave a sum of 24,540*l.* to be provided for, inasmuch as the Act only gave power to raise 150,000*l.*

J. S. Pakington, Esq., M. P., moved the adoption of the reports, and stated that as the Staffordshire and Worcester Canal Company were willing to advance the further sum of 30,000*l.*, it was necessary that every guarantee should be given them by the application for another Act in the next session.

J. E. Strickland, Esq., seconded the resolution.

In reply to Mr. Spooner, Mr. Waters read the items of the present liabilities, which he stated did not include the expenses of the former application to Parliament.

Mr. Cother was afraid that, in case the application for another Act failed, the Commissioners would be personally responsible to the contractors; but Lord Hatherton, as chairman of the Staffordshire and Worcestershire Canal Company, stated that if the Commissioners then present should record their approbation of the proceedings hitherto taken, and of the intention to go to Parliament again, that Company would be so far satisfied as to give every necessary guarantee to the contractors. The reports were received and recorded.

Mr. J. W. Lea then moved, and Mr. Gutch seconded, a proposition that the Committee of Works be instructed to accept Messrs. Grissell & Peto's contract, or any other party of which the Committee might approve, subject to such conditions and securities as the Committee might think fit.

R. Spooner, Esq., objected to the motion, on the ground that all public works of such a kind ought to be opened to public competition.

Lord Hatherton spoke highly in favour of Messrs. Grissell & Peto, observing that nothing was so effectual a guarantee for the due execution of the works as the excellent character enjoyed by those contractors, and their high standing in the commercial world and in society generally.

After some observations on the same subject by Mr. Cother, Mr. Whitcomb, and Mr. Spooner, Mr. J. B. Payne inquired why the sum now stated had so far exceeded the original estimate; to which Mr. Cubitt replied, that the Parliamentary expenses were much greater than had been expected, and that the expensive lock at Diglis and the heavy works at Upton had not been contemplated in the original estimate.

The motion was then adopted, as also was one moved by T. C. Hornyold, Esq., and seconded by Mr. Spooner, authorizing the Committee of Works and Finance to obtain the necessary Act for power to raise 30,000*l.* Mr. Spooner, however, would not pledge himself that the Company he represented (the Birmingham and Worcester Canal) would not oppose the application. After thanks had been passed to the Chairman, the business concluded.

Literature.

Student's Guide to the Practice of Measuring and Valuing Artificers' Work. London: Weale, 59, High Holborn.

Of course it will be understood that this is a builder's book, and that it is *building artificers'* work that is referred to. We are the more particular as to the right exposition of the title, because the book is in another respect strictly what its title implies, namely, a "STUDENT'S GUIDE;" by this we mean that it is not in our opinion designed for absolute practical reference, but for initiating *the student* in the theory of measurement and valuation.

The advertisement page of the work explains that—

"The following work was originally written expressly for the rising student by an eminent architect and surveyor of upwards of fifty years' experience, but the manuscript having been left at his recent death in an imperfect state, it has been carefully arranged for publication, with much additional matter, by Mr. Edward Dobson, who was educated in the office of an active measuring surveyor, and who is the author of 'A Statistical Account of the Railways of Belgium,' to whom I am also indebted for the correction of the proofs.

"It is anticipated that this volume will fill the wide space between the student and the practical man, by removing the perplexing difficulties which hitherto have been a barrier to his advancement, and which can be appreciated only by those who aspire to be correct and efficient men of business, in the profession that they may desire to follow."

"Measuring and valuing," it is said in the preliminary observations of this book, "is not the most pleasant of an architect's duty, more particularly when it is one to which he does not feel himself perfectly competent. It is therefore strongly recommended to the student, that after he has acquired sufficient knowledge of construction for making out working drawings correctly, he should attend to the rules, by which in due time he may become qualified to measure and value the work when performed."

"The disinclination often felt by young gentlemen of education for the study of these rules, and of the mechanical part of the profession, make it the more necessary to impress on their minds the absolute necessity of studying these essential qualifications, which can only be done, with any probability of success, by commencing at the lowest, and rising gradually to the higher departments. If the student neglects the operative part, he must never expect to be capable of making working drawings without incurring the ridicule of the mechanic; and when he commences business on his own account, if he also neglects the measuring department, he will be obliged to employ persons to make out his specifications, and to measure and value his works when completed. The expense incurred by thus employing others to do what he is incapable of, is a minor consideration, for it is imperative on the young architect to reflect that he will be the responsible agent between the gentleman and the builder, and that if, during the erection of an edifice, he allows the work to be insecurely performed, or suffers his employer to be imposed on, not only is his character at stake, but he is also amenable by the laws of his country (and very properly): so that following the profession of an architect, not being duly qualified, may be attended with the most serious consequences: for whether an architect allows his employer to suffer from inattention on his own part, or from the ignorance or dishonesty of the persons employed by him, it is precisely the same in effect, he being professionally employed, and receiving his commission on the cost of the building, which is paid him for designing, directing, and superintending its construction, and seeing that the whole is performed in a proper and workmanlike manner, examining and passing the accounts, and making every arrangement for their final settlement. Consequently, in case of failure in any respect, he is answerable, from whatever cause it may arise, except the improper interference of his employer. Independently of this serious responsibility, if he does not qualify himself in the operative part, it is impossible that he can ever follow his profession with any comfort or satisfaction. Even in passing over or through his own buildings, he is obliged to be most careful of giving any directions, fearful lest he should commit himself before the common mechanic, who very soon discovers if the architect has practical knowledge, and consequently in what manner the work may or must be done, and acts accordingly.

"It may be stated that architects of extensive practice cannot attend to all these things themselves. True; but be it remembered, that young men do not very soon get into such practice, particularly if they are not well-qualified; and when they do, it is the more essential that they should perfectly understand the practical part of their profession,—that they may select proper assistants, and having chosen them, that they should know from their own experience if they perform their duty with ability and integrity."

We have quoted at length in the foregoing extract, because we admit the force and justice of the views propounded in it. By some it may be urged, and is urged, that the architect is one thing, and the surveyor and valuer another; and the practice in London being to separate these functions, and to vest them in two distinct parties, many architectural students of this metropolis conclude that the necessity for their being acquainted with the modes of measuring and valuing work is done away with; but we take leave to assert that unless a man be that sort of genius possessing a kind of intuitive or instinctive skill in the question of workmanship and labour, he cannot launch far into the sphere of the genuine architect, without the acquisition of this knowledge upon rule and principle; and so we hail the appearance of this book, and invite the student's particular attention to it.

The most notable feature of the work is what is called the *decimal constant*; but while it seems to approximate to a perfect theory, it is like many other things of similar promise, defective when applied to practice: it has, however, great merits, which we will endeavour to explain.

What is meant by the "constant" in this book, is the fixed expression of value for any particular kind of work; and we are not prepared to say that the decimal expression is the best in theory, but we are sure it would take long, very long, to reduce it to general practice. Englishmen are so used to fractional denominations of a day, and to speaking of so many hours, the quarter, or half of a day, that it would be a labour as difficult as to teach the whole science of admeasurement, to bring them into the decimal notation, and to accustom them to say decimal ·25 or decimal ·5 of a day, otherwise the principle is valuable; for instance under the head of CARPENTRY, and "labour on fir timber," we have the constant ·168 opposite to the item "*cube fir truss framed.*" This ·168 is the decimal expression of that part of a day in which the labour on a cube foot of fir timber in the way of truss framing would be accomplished; and by multiplying the decimal number by the rate of wages per day which a carpenter receives, or is charged for by his master in the bill, the value of the work per foot, and in like manner per yard, per square, per rod, and so on, is ascertained. At first sight, too, this plan seems admirable in another respect, since it appears to set up a standard, or "constant" as it is called, for determining the rate *per* foot, yard, square, or rod all over the kingdom—so that by multiplying the "constant" of labour by the varying price of labour in different districts, you would seem to have a general price-current for all districts. This is not, however, exactly so; for we have found, and it is well known among architects and builders to be the fact, that there are many classes of work done in London at as cheap and sometimes a cheaper rate, paying 5*s.* a day to the workman, than in the country where or 3*s.* 6*d.* may be the rate of wages. This arises from the system pursued in the Metropolis and most large towns, and in large establishments, of what is called the principle of "*division of labour*;" for instance, in a London shop, one man is kept at one description of work, in which he acquires a superior proficiency, while he may be unskilled in the general routine of his art, and for that work which he is confined to, he establishes by his "*habit of skill*" a minimum standard of time which not one workman in a thousand in the country could be honestly and fairly tried by; the consequence is that, by multiplying the constants for London work by the scale of country wages, you fall short of the cost, and, indeed, of the value. So we perceive that correct theories fall out in application to practice. With these exceptions, however, the principle is valuable, and it is greatly more so when we consider that the assigning of "constants"—the requiring of the student to make his table of such for the district in which he may be placed—leads him into a proper business-like method, and out of the absurd and parrot-like formula which too many fall into, who quote and affix prices as if they were matter of guess or memory—whose heads, on such a subject, are little better than our tablets, on which are enregistered the "*constants*" only of an arbitrary custom or practice. On the whole, therefore, we can say of this work, that it is a valuable addition to our library of instruction, if not of information. The principal technical terms are given in each department of work; methods of taking the dimensions, and the order or rotation in which they should be taken, are pointed out; the system of abbreviating words by the use of initial letters; the form of an abstract, and the bringing the quantities into bill. The different trades treated on are bricklayer and slater, carpenter and joiner, mason, plasterer, smith and ironmonger, plumber, painter, glazier, and paper-hanger. There are seven plates given in the work to illustrate the various modes of measurement prescribed, and some useful though brief instructions on concrete making; and tables of materials, by which the quantity in any particular work may be calculated.

LEDBURY.—Earl Somers has given the site for the proposed new church at this place, in addition to a subscription of 500*l.*

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